

CLAIMS

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1. In a mobile communication system, a method for talker arbitration for a push-to-talk function, the method for talker arbitration comprising the steps of:

10 receiving an indication that a talking floor is available;
establishing an uplink temporary block flow;
prior to a release of the uplink temporary block flow by the mobile communication system, sending a refresh message to the mobile communication system to hold the uplink
15 temporary block flow; and
activating the push-to-talk function.

2. In a mobile communication system, the method for talker arbitration as claimed in claim 1 wherein there is further
20 included a step of after establishing an uplink temporary block flow, establishing a downlink temporary block flow.

3. In a mobile communication system, the method for talker arbitration as claimed in claim 2 wherein there is further
25 included a step of prior to a release of the downlink temporary block flow by the mobile communication system, sending a refresh message to hold the downlink temporary block flow.

30 4. In a mobile communication system, the method for talker arbitration as claimed in claim 3 wherein the steps of establishing a downlink and prior to release of the downlink sending a refresh message to hold the downlink are performed by a mobile unit.

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5. In a mobile communication system, the method for talker arbitration as claimed in claim 3 wherein there is further included a step of, if a light traffic condition exists in the

mobile communication system, sending a refresh message by the mobile communication system to a mobile unit.

6. In a mobile communication system, the method for talker arbitration as claimed in claim 3 wherein there is further included a step of, if a downlink temporary block flow is not established when the uplink temporary block flow is established, sending by the mobile communication system a refresh message to the mobile unit to hold the downlink temporary block flow.

7. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein the steps of establishing an uplink, sending a refresh message, and activating the push-to-talk-to-talk function are performed by a mobile unit.

8. In a mobile communication system, the method for talker arbitration as claimed in claim 1 wherein there is further included a step of requesting by a mobile unit the talking floor.

9. In a mobile communication system, the method for talker arbitration as claimed in claim 6 wherein immediately responsive to the requesting the talking floor, the mobile communication system sends a message to the mobile unit granting the talking floor to the mobile unit.

10. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein the steps of receiving, establishing, sending and activating are iterated for a plurality of mobile units.

11. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein the mobile communication system includes a general packet radio service system.

12. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein there is further included steps of:

5 determining whether a light traffic condition exists in the mobile communication system;

sending a refresh message, to the mobile communication system by a mobile unit, to hold the uplink temporary block flow, if the light traffic condition exists.

10 13. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein there is further included steps of:

determining whether non-busy hour or off peak time conditions exist in the mobile communication system;

15 sending a refresh message, to the mobile communication system by a mobile unit, to hold the uplink temporary block flow, if the non-busy hour or off peak time conditions exist.

14. In a mobile communication system, the method for talker arbitration as claimed in claim 1, wherein, prior to the release of the uplink temporary block flow by the mobile communication system, the step of sending a refresh message includes a step of continuously sending the refresh message.

15. In a mobile communication system, a call setup method comprising the steps of:

5 sending a call setup initiation message to the mobile communication system;

establishing by the mobile communication system a downlink temporary block flow; and

10 prior to a release of the downlink temporary block flow, sending a refresh message by the mobile communication system to hold the downlink temporary block flow.

16. In a mobile communication system, the call setup method as claimed in claim 15, wherein there is further included a step of determining by the mobile communications system
15 whether a call setup response message was sent to a mobile unit.

17. In a mobile communication system, the call setup method as claimed in claim 16, wherein if no call setup response was
20 sent there is further included a step of prior to the release of the downlink temporary block flow, sending a message to hold the downlink temporary block flow.

18. In a mobile communication system, the call setup method
25 as claimed in claim 16, wherein if a call setup response message was sent to a mobile unit, the call setup method is ended.

19. In a mobile communication system, the call setup method
30 as claimed in claim 15, wherein the step of sending the call setup initiation is performed by a mobile unit.

20. In a mobile communication system, the call setup method
35 as claimed in claim 15, wherein the mobile communication system includes a general packet radio service system.

21. In a mobile communication system, a method for wake up of a target mobile unit comprising the steps of:

obtaining by the mobile communication system an identifier of the target mobile unit;

5 sending by the mobile communication system a wake up packet to the target mobile unit; and

prior to a release of the downlink temporary block flow, sending by the mobile communication system a wake up message to hold the downlink terminal block flow.

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22. In a mobile communication system, the method for wake up as claimed in claim 21, wherein there is further included a step of waiting by the mobile communication system until just prior to release of the downlink terminal block flow.

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23. In a mobile communication system, the method for wake up as claimed in claim 21, wherein the step of obtaining includes the step of sending by an originating user a wakeup packet including the identifier of the target mobile unit to the mobile communication system.

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24. In a mobile communication system, a method for wake up as claimed in claim 21, wherein there is further included a step of sending a wake up packet by an originating user directly to a target user device or client.

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25. In a mobile communication system, a method for wake up as claimed in claim 21, wherein the mobile communication system includes a general packet radio service system.

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